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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/471,281	12/23/1999	RODOLPHE NASTA	Q57406	7223

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EXAMINER

MILLER, BRANDON J

ART UNIT PAPER NUMBER

2683

DATE MAILED: 06/10/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/471,281

Applicant(s)

NASTA, RODOLPHE

Examiner

Brandon J Miller

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dodd in view of Ishii.

Regarding claim 1 Dodd teaches transmitting signals to a satellite having at least two antennas (see col. 3, lines 30-43). Dodd teaches antennas whose radiation patterns overlap, and means for receiving signals from various antennas (see col. 3, lines 4-14 & 30-43). Dodd teaches summing signals received via antennas and decrypting received signals (see col. 3, lines 4-7 & 48-51). Dodd does not teach transmitting spread spectrum modulated signals, demodulating summed signals, or delaying at least one of the received signals so that the path difference between the summed signals is at least one chip of the spread spectrum modulation. Ishii teaches transmitting spread spectrum modulated signals and demodulating summed signals (see col. 3, lines 37-43 and col. 4, lines 30-38). Ishii also teaches delaying a received signal (see col. 3, lines 3-7 and col. 7, lines 20-22) and a received signal that has a path difference of at least one chip of the spread spectrum modulation (see col. 3, lines 43-49). It would have been obvious to one skilled in the art at the time the invention was made to make the Dodd adapt to include transmitting spread spectrum modulated signals, demodulating summed signals, or delaying at

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least one of the received signals so that the path difference between the summed signals is at least one chip of the spread spectrum modulation because this would allow for the use of a single receiver that receives the sum of signals from antennas without the necessity of selecting a receive signal.

Regarding claim 2 Dodd teaches transmitting signals to a satellite having at least two antennas (see col. 3, lines 30-43). Dodd teaches antennas whose radiation patterns overlap, and means for receiving signals from various antennas (see col. 3, lines 4-14 & 30-43). Dodd does not teach transmitting spread spectrum modulated signals, sending modulated signals to antennas, or signals transmitted via the antennas being offset by at least one chip of the spread spectrum modulation. Ishii teaches transmitting spread spectrum modulated signals and sending modulated signals to antennas (see abstract, col. 3, lines 37-43 and col. 4, lines 30-38). Ishii also teaches a received signal that has a path difference of at least one chip of the spread spectrum modulation (see col. 3, lines 43-49). It would have been obvious to one skilled in the art at the time the invention was made to make the Dodd adapt to include transmitting spread spectrum modulated signals, sending modulated signals to antennas, or signals transmitted via the antennas being offset by at least one chip of the spread spectrum modulation because this would allow for a receiver to lock onto a signal from one antenna without a signal from another antenna interfering.

Regarding claim 3 Ishii further teaches modulating signals using a spreading sequence offset by one chip (see col. 3, lines 37-50).

Regarding claim 4 Ishii further teaches a time-delay to a signal (see col. 3, lines 3-7 and col. 7, lines 20-22).

Regarding claim 5 Dodd teaches transmitting signals to a satellite having at least two antennas (see col. 3, lines 30-43). Dodd teaches antennas whose radiation patterns overlap, and means for receiving signals from various antennas (see col. 3, lines 4-14 & 30-43). Dodd does not teach transmitting spread spectrum modulated signals, sending modulated signals to antennas, or signals transmitted via the antennas being spread spectrum modulation using different sequences. Ishii teaches transmitting spread spectrum modulated signals and sending modulated signals to antennas (see abstract, col. 3, lines 37-43 and col. 4, lines 30-38). Ishii also teaches a received signal that is spread spectrum modulated using different sequences (see col. 3, lines 37-50). It would have been obvious to one skilled in the art at the time the invention was made to make the Dodd adapt to include transmitting spread spectrum modulated signals, sending modulated signals to antennas, or signals transmitted via the antennas being spread spectrum modulation using different sequences because this would reduce reception problems in the area of radiation pattern overlap of the antennas.

Regarding claim 6 Dodd teaches transmitting signals to a satellite having at least two antennas (see col. 3, lines 30-43). Dodd teaches antennas whose radiation patterns overlap, and means for receiving signals from various antennas (see col. 3, lines 4-14 & 30-43). Dodd teaches summing signals received via antennas (see col. 3, lines 4-7). Dodd does not teach transmitting spread spectrum modulated signals, demodulating summed signals, or at least one of the received signals so that the path difference between the summed signals is at least one chip of the spread spectrum modulation. Ishii teaches transmitting spread spectrum modulated signals and demodulating summed signals (see col. 3, lines 37-43 and col. 4, lines 30-38). Ishii also teaches a received signal that has a path difference of at least one chip of the spread spectrum

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modulation (see col. 3, lines 43-49). It would have been obvious to one skilled in the art at the time the invention was made to make the Dodd adapt to include transmitting spread spectrum modulated signals, demodulating summed signals, or at least one of the received signals so that the path difference between the summed signals is at least one chip of the spread spectrum modulation because this would limit multipath problems in reception and transmission.

Regarding claim 7 Dodd teaches a coupler for signals from an antenna and receiver means with two receivers (see col. 1, lines 13-15 and FIG. 2).

Regarding claim 8 Dodd and Ishii teach a device as recited in claim 4 and is rejected given the same reasoning as above.

Regarding claim 9 Ishii teaches a delay line and filters (see col. 3, lines 3-7).

Regarding claim 10 Dodd teaches transmitting signals to a satellite having at least two antennas (see col. 3, lines 30-43). Dodd teaches antennas whose radiation patterns overlap, and means for receiving signals from various antennas (see col. 3, lines 4-14 & 30-43). Dodd teaches summing signals received via antennas (see col. 3, lines 4-7). Dodd does not teach transmitting spread spectrum modulated signal or the that the absolute difference between the transmission times of signals transmitted is greater than one chip of the spread spectrum modulation. Ishii teaches transmitting spread spectrum modulated signals (see col. 3, lines 37-43 and col. 4, lines 30-38). Ishii teaches a received signal that has a path difference greater than one chip of the spread spectrum modulation (see col. 3, lines 43-49). It would have been obvious to one skilled in the art at the time the invention was made to make the Dodd adapt to include transmitting spread spectrum modulated signal or the that the absolute difference between the transmission times of signals transmitted is greater than one chip of the spread spectrum

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modulation because this would allow for the antennas to be connected so the difference between transmission times of a signal from two antennas is greater than one chip of spread spectrum modulation.

Regarding claim 11 Dodd teaches transmitting signals to a satellite having at least two antennas (see col. 3, lines 30-43). Dodd teaches antennas whose radiation patterns overlap, and means for receiving signals from various antennas (see col. 3, lines 4-14 & 30-43). Dodd does not teach transmitting spread spectrum modulated signals, sending modulated signals to antennas, or signals transmitted via the antennas being spread spectrum modulation using different sequences. Ishii teaches transmitting spread spectrum modulated signals and sending modulated signals to antennas (see abstract, col. 3, lines 37-43 and col. 4, lines 30-38). Ishii also teaches a received signal that is spread spectrum modulated using different sequences (see col. 3, lines 37-50). It would have been obvious to one skilled in the art at the time the invention was made to make the Dodd adapt to include transmitting spread spectrum modulated signals, sending modulated signals to antennas, or signals transmitted via the antennas being spread spectrum modulation using different sequences because this would reduce reception problems in the area of radiation pattern overlap of the antennas.

Regarding claim 12 Dodd and Ishii teach a device as recited in claim 10 or claim 11 except for at least two transmitters in a cold redundancy configuration and a coupler for sending the signals from the transmitters to the antennas. Dodd does teach transmitter means with two transmitters (see col. 3, line 54 and FIG. 2) and a coupler for sending the signals from the transmitters to the antennas (see col. 3, lines 44-51). Dodd does not specifically mention the transmitters being in a cold redundancy configuration but one of ordinary skill in the art at the

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time the invention was made would realize that the transmitters could be configured in such a manner depending upon outcome desired. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the invention adapt to include at least two transmitters in a cold redundancy configuration and a coupler for sending the signals from the transmitters to the antennas because this would allow for the determination and selection of a transmission radiation patterns.

Regarding claim 13 Dodd and Ishii teach a device as recited in claim 10 or claim 11 except for a time delay unit between a transmitter and at least one antenna. Dodd does teach a time-delay to a signal (see col. 3, lines 3-7 and col. 7, lines 20-22). Even though Dodd does not specifically teach a time delay unit between a transmitter and at least one antenna it would have been obvious to one of ordinary skill in the art at the time the invention was made that a time that a delay unit could be placed at various locations satellite system because this would allow for diverse transmission technique in spread spectrum communications.

Regarding claim 14 Dodd and Ishii teach a device as recited in claim 9 and is rejected given the same reasoning as above.

Regarding claim 15 Ishii teaches a method that excludes phase shifting of the signals (see col. 4, lines 17-45).

Regarding claim 16 Ishii teaches a method that is free of means for phase shifting of the signals (see col. 4, lines 17-45).

Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection.

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Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Park U.S Patent No. 6,353,643 discloses a smart antenna receiver using pilot signal in CDMA mobile communication system and signal receiving method therefor.

Dent U.S Patent No. 6,157,811 discloses a cellular/satellite communications system with improved frequency re-use.


Yukitomo U.S Patent No. 6,240,149 discloses an adaptive transmission diversity apparatus and adaptive transmission diversity method.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandon J Miller whose telephone number is 703-305-2222. The examiner can normally be reached on Mon.-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on 703-308-5318. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

May 30, 2003


WILLIAM TROST
SUPERVISORY PATENT EXAMINER
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